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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,085	08/08/2001	Ying Choy Siew	S01.12-0801/STL 10011	3093

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Deirdre Megley Kvale
Westman, Champlin & Kelly
International Center, Suite 1600
900 Second Avenue South
Minneapolis, MN 55402-3319

EXAMINER

PATEL, PARESH H

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,085

Applicant(s)

SIEW ET AL.

Examiner

Paresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1-10 objected to because of the following informalities: "a first interface" should read --a first interface surface-- and "a second interface" should read --a second interface surface--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Rabkin et al. (US 5828223).

Regarding claims 11 and 14, Rabkin discloses: a test assembly [21, 22a, 23] comprising: a fixture [30, 40, 61, 35] including a first interface *surface* [35] having a plurality of interface terminals [61] adapted to electrically couple the fixture to a test engine [62] and a second interface *surface* [30] having a plurality of interface terminals [terminals of 40] adapted to electrically couple the fixture to terminals on a printed circuit board [25] and the plurality of interface terminals on the first interface being electrically coupled to the plurality of interface terminals on the second interface; and

means [70] for removably installing the fixture to the test engine to provide an electrical connection between the interface terminals on the first interface and the test engine.

Regarding claims 12, 15 and 16, Rabkin discloses: the test assembly of claims 11 and 14 wherein the means for removably installing includes a clamp assembly [33, 71, 72, 73, 74] including opposed clamp members [73, 74], of said clamp members forming a support surface [surface of 73, 74] to load *the* fixture for installation and the other of said clamp members being positionable between a load position (a first orientation) [before 30 shift by an operator] and a clamped position (a second orientation) [shift position of 30] to clamp the fixture to a test engine.

Regarding claim 13, Rabkin discloses: the test assembly of claims 12 wherein the clamp assembly is coupled to an actuator [70] movable between a first position spaced from the test engine to load the fixture (sequentially coupling a plurality of circuit boards) on the support surface and a second position proximate to the test engine to provide an electrical connection between the fixture and the test engine (sequentially testing plurality of circuit board) to install the fixture.

Regarding claim 17, Rabkin discloses: The method of claim 15 and further comprising the steps of: sequentially coupling a plurality of circuit boards relative to the plurality of interface terminals on the second interface; and sequentially testing operation of the plurality of circuit boards [lines 1-20 of column 3].

Regarding claim 18, Rabkin discloses: the method of claim 14 and further comprising the steps of: operating the actuator assembly to retract the fixture from the

test device; unclamping the fixture from the actuator assembly; and removing the fixture and installing a different fixture relative to the test device [lines 1-20 of column 3 and lines 43-60 of column 5].

Regarding claim 19, Rabkin discloses: the method of claim 14 and further comprising the steps of: positioning a circuit board between the fixture and a cover having interface terminals; and moving the cover to electrically connect the circuit board to the interface terminals on the fixture and the cover [lines 1-35 of column 3].

Regarding claim 20, Rabkin discloses: a test device [fig. 1-2] comprising: a test circuit [30, 40, 61, 35, 65, 21, 22] adapted to electrically test a particular circuit board [30]; and means [70] for operably engaging the test circuit against the circuit board.

Regarding claim 21, Rabkin discloses: the test device of claim 20 wherein the test circuit includes a fixture [30,40,61,35] operably movable between a retracted position, and an installed position where the circuit board is tested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler et al. (US 5436567) in view of Rabkin et al. (US 5828223).

Regarding claim 1, Wexler et al. (hereinafter Wexler) in fig. 1-6 discloses: a test fixture assembly [10] for testing a printed circuit board [12] comprising:

a fixture [26] including a first interface ~~surface~~ [top surface of 26] having a plurality of interface terminals [top of 32] adapted to electrically couple the fixture to a test device [inherent to lines 44-50 of column 3 and lines 1-5 of column 2] and a second interface ~~surface~~ [bottom surface of 26] having a plurality of interface terminals [bottom of 32] adapted to electrically couple the fixture to terminals on the printed circuit board and the plurality of interface terminals on the second interface being electrically coupled to the plurality of interface terminals on the first interface;

a clamp assembly [15, 17] adapted to selectively secure the fixture relative to a support member [14]; and

an actuator [28-31] operably coupled to the support member to move the fixture between a first position [position of 26 in fig. 3A and/or 3B] to support the fixture at a position spaced from the test device and a second position [position of 26 in fig. 3C] to install the fixture relative to the test device to provide an electrical connection between the interface terminals on the fixture and the test device [inherent to fig. 3C].

Wexler do not discloses an actuator operably coupled to the support member to move the fixture between a first position to support the fixture **at a position spaced from the test device**. However, Rabkin et al. (hereafter Rabkin) discloses an actuator [70] operably coupled to the support member [73,74,35] to move the fixture [30,40,61,35] between a first position [position 25, 30, 40, 61 with 71 before 70 is energized] to support the fixture **at a position spaced from the test device** [25,30,40,

61 with 62]. It would have been obvious to one having ordinary skill in the art to modify the test fixture assembly of Wexler with an actuator and the test device as taught by Rabkin, in order to control the movement (i.e. engage and disengage position) of PCB w.r.t. test device during testing.

Regarding to claim 2, Wexler and Rabkin do not disclose: the test fixture assembly of claim 1 and further comprising **a rotator** coupled to the clamp assembly to rotate the clamp assembly between **a first orientation to load the test fixture** and **a second orientation to clamp the test fixture** for installation.

Rather, Rabkin discloses a dowels 33 in the socket plate 30 having key-hole slot 72 to receive actuator hat pins 71. In operation, socket plate 30 shifts horizontally to lock the socket plates to the actuator hat pins. Here, socket plate was shifted by an operator. Similarly, Waxler's clamp assembly is rotated between a first orientation and a second orientation with hand by an operator. It would have been obvious matter of design choice to use rotator to rotate the clamp assembly between first and second orientation, in order to load and clamp the test fixture during testing. Because the same invention can also be perform with hand and not performing differently then the prior art, use of rotator is held unpatentable. See *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

Regarding claim 3, Wexler discloses: the test fixture assembly of claim 1 wherein the clamp assembly includes first [14,15] and second [17, 16] clamp members having opposed clamp surfaces to secure the fixture there between and one of said clamp members forms the support member to load the test fixture for installation.

Regarding claim 4, Wexler and Rabkin do not disclose: the test fixture assembly of claim 3 wherein **the fixture includes an elongated clamp opening** having an elongated dimension and a narrower dimension and the other of **said clamp members includes a head having an elongated dimension and narrower dimension** and the head is sized for insertion through the clamp opening in **a first orientation** with the elongated dimension of the head aligned with the elongated dimension of the clamp opening and the other of said clamp member being rotatable to **a second orientation** to align the elongated dimension of the head with the narrower dimension of the clamp opening to clamp the fixture relative to the one of said clamp members which forms the support member for installation. Rather, Rabkin discloses an clamp opening [37], a clamp having a head [71], a first orientation [when 30 is loaded] and a second position [when operator shifts 30]. It would have been obvious to use Rabkin's clamp opening and head to modify by one having ordinary skill in the art to lock and unlock the test fixture during testing. Because claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device. See *In re Gardner v. TEC System Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. Denied, 469 U.S. 830, 225 USPQ 232 (1984).

Regarding claim 5, Wexler discloses: the test fixture assembly of claim 1 and further including a cover [24] including interface terminals [34] electrically coupleable to the *printed* circuit board terminals for testing.

Regarding claim 6, Rabkin discloses: the test fixture of claim 1 wherein the fixture includes guide holes [82] for insertion of guide pins [pins for 82 on 21] on the test device or a cover [21].

Regarding claim 7, Wexler discloses: the test fixture assembly of claim 1 wherein the first interface *surface* is orientated in a first direction [top surface of 26] and the second interface *surface* is orientated in a second opposed direction [bottom surface of 26 towards PCB] from the first direction.

Regarding claims 8, Rabkin discloses: the test fixture assembly of claim 1 wherein the actuator is a piston-cylinder actuator [inherent to 70].

Regarding claim 9, Rabkin discloses: the test fixture assembly of claim 8 wherein the piston-cylinder actuator is pneumatically operated [lines 45-51 of column 4].

Regarding claim 10, Rabkin discloses: the test fixture assembly of claim 1 and comprising at least four clamp assemblies [71, 73, 74] coupleable to at least four clamp openings on the fixture [37, 33 and 72].

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabkin as applied to claims 20 and 21 above, and further in view of Wexler.

Regarding claim 22, Rabkin discloses a cover [21]. Rabkin do not disclose: the test device of claim 21 wherein the test circuit further comprises a cover **wherein both sides of the circuit board are electrically engageable**. However, Wexler discloses a cover [14] and both sides of the circuit board [12] are electrically engageable [using 26 and 24]. It would have been obvious to one having ordinary skill in the art to modify the test device of Rabkin with both sides of the circuit board [12] are electrically engageable

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as taught by Wexler, in order to test the circuit board terminals from both side and to reduce time during testing of circuit board.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
February 10, 2003


KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800